

68.(Amended) A coated side curtain airbag exhibiting a rolled packing volume factor of from about 17 to about 24; wherein said coated side curtain airbag exhibits a leak-down time after inflation of at least 7 seconds; and wherein said inflatable fabric comprises at least two layers of fabric in certain discrete areas of the fabric and at least one narrow single fabric layer at a discrete area within said fabric; wherein said at least one narrow single fabric layer is the sole source of providing inflatable pillow structures within said airbag cushion; and wherein said at least one narrow single fabric layer is formed solely from a basket weave pattern of an even number of yarns, at most 12 yarns in width.

REMARKS

Claims 1-69 are pending within this application. No claims have been canceled or added. Claims 1, 23, 38, 53, and 68 have been amended to clearly show the fact that the single layers of fabric have been produced solely through a weave pattern (and thus not via ultrasound bonding, or other like procedures). Furthermore, the limitations to one-piece woven structures, inflatable pillow structures, and other clarifying amendments have been submitted to show the uniqueness and required presence solely of a woven single fabric layer as the point of connection between two distinct fabric layers. Such is taught throughout the originally filed specification, most notably within the drawings and accompanying descriptions. No new matter has been submitted. Entry and due consideration thereof such amendments are therefore earnestly solicited.

The Office has provisionally rejected Claims 1-15, 18-30, 33-45, and 63-69 under the judicially created doctrine of obviousness-type double patenting as being unpatentable over Claims 1-43 of copending Application No. 09/718,812. The Office has also rejected Claims 1-69

under the judicially created doctrine of obviousness-type double patenting as being unpatentable over Claims 1-18 of U.S. Pat. No. 6,451,715. Applicants hereby submit the necessary Terminal Disclaimer to overcome the '812 rejection and previously supplied one on 2/14/03 for the '715.

The amendments above should render moot the objections noted by the Office to the pending Claims.

The Office has also rejected Claims 1-69 under 35 U.S.C. § 103(a) as being unpatentable over Lowe further in view of Moriwaki et al. Applicants disagree with the basis of such a rejection as first Lowe is not directed to an airbag fabric or cushion at all. Moriwaki et al. are specifically concerned with providing improved lower cost airbag fabrics at higher levels of structure. There is no reason the ordinarily skilled artisan would have reviewed Lowe initially to determine a manner of improving or modifying an airbag cushion. Furthermore, there is no reason the ordinarily skilled artisan would have reviewed Moriwaki et al. in view of Lowe as the teachings have no overlapping similarities or problems to be solved in combination. More importantly, however, is the fact that neither Lowe nor Moriwaki et al. disclose nor fairly suggest an airbag fabric of the same low permeability characteristics as now claimed, in terms of a high characteristic leak-down rate. Such a rate for the inventive airbag must be high to provide rollover protection of an appreciable amount of time. The moment such a cushion is inflated, the gas pressures generated by the inflator exert tremendous forces on the cushion at all locations, particularly the seams. As such, there is a need to ensure, for rollover cushioning purposes, that such an airbag cushion retains the gases therein for a minimum amount of time. As the tests indicate within the originally filed specification, a high characteristic leak-down rate (time) thus shows a very high impermeability to high pressure gases. This requirement is neither taught nor suggested by either cited prior art reference.

Lowe, as noted above, is concerned with a heat-sealable woven fabric; nothing approaching the requirements of withstanding the enormous pressures of airbag inflation is presented with this patent. Moriwaki et al. are concerned with providing a lower construction, and thus less expensive, fabric ultimately for airbag utilization that exhibits similar properties to woven fabrics of higher construction (e.g., higher cover factor). Patentees accomplish this through the application of extremely low level coatings. However, as is evident from the examples and measurements therein, such a coating does not provide low air permeability, at least to the degrees now required of the claimed airbag cushion, and merely permits the production of a lower construction (cover factor) fabric that exhibits similar properties to more expensive higher construction types. The Tables at columns 10 and 11 clearly show that the exemplified Moriwaki et al. fabrics do not possess sufficiently low air permeabilities to provide a coating that would meet the present claim limitations. Patentees utilize $\text{cc}/\text{cm}^2/\text{sec}$ for their air permeability measurements; Applicant utilizes the aforementioned characteristic leak-down rate. In terms of cfm, a characteristic leak-down rate as now claimed is essentially as close to 0 as can be measured. Moriwaki et al.'s fabrics are clearly intended for driver's side or passenger's side airbag cushions which must instantaneously exhibit some air permeability to provide the needed cushioning for proper protection. In any event, the conversion from $\text{cc}/\text{cm}^2/\text{sec}$ to cfm requires a multiplication factor of ~ 1.96 . Thus, taking the Moriwaki et al. measurements, such as at lines 27-33 on col. 10, the lowest air permeability is $6.1 \text{ cc}/\text{cm}^2/\text{sec} \times 1.96$, or $\sim 11.9 \text{ cfm}$; line 2 of col. 11 provides the same result. This is well above the required low level of 0.5 cfm (or $\sim 0.26 \text{ cc}/\text{cm}^2/\text{sec}$) present within the current claims. Furthermore, there is no suggestion to increase the coating levels within Moriwaki et al. above a 10 micron level. As such, there is no way suggested by patentees to provide sufficient motivation the ordinarily skilled artisan to modify

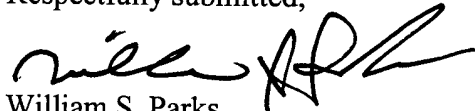
the teachings of Moriwaki et al. to meet the instant claim limitations in terms of providing air permeability to the degree and/or level necessary for rollover protection. The ordinarily skilled artisan would have understood the purpose behind Moriwaki et al.'s teachings, namely, as noted above, to provide a lower construction, less expensive airbag fabric, that exhibits similar properties to uncoated higher construction, more expensive, airbag fabrics. No indication or insinuation as to improved air permeability is provided, at least to the extent required within the present claims. Thus, even if Moriwaki et al. and Lowe were properly combined, there is no teaching between the two that would provide a full disclosure and/or suggestion to the ordinarily skilled artisan of the actual presently claimed invention. Reconsideration and withdrawal of the applied rejections are therefore earnestly solicited.

CONCLUSION

In view of all of the previous amendments and remarks, it is respectfully submitted that the pending claims are now in condition for allowance and it is requested that this application be passed on to issue.

June 3, 2003

Respectfully submitted,



William S. Parks

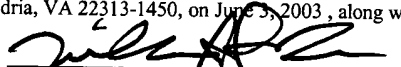
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CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to Mail Stop Non-Fee Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on June 3, 2003, along with a postcard receipt.


William S. Parks, Attorney for Applicants

MARKED-UP VERSION OF AMENDMENTS TO 09/718,643

IN THE CLAIMS:

1.(Amended) [An] A one-piece woven airbag cushion comprising a coated inflatable fabric, wherein said inflatable fabric is at least partially coated with an elastomeric composition; wherein said airbag cushion exhibits a characteristic leak-down time after inflation of at least 5 seconds; [and] wherein said inflatable fabric comprises at least two layers of fabric in certain discrete areas of the fabric and at least one narrow single fabric layer at a discrete area within said fabric[.]; wherein said at least one narrow single fabric layer is the sole source of providing inflatable pillow structures within said airbag cushion[.]; and wherein said at least one narrow single fabric layer is formed solely from a basket weave pattern of an even number of yarns, at most 12 yarns in width.

23.(Amended) [An] A one-piece woven airbag cushion comprising a coated inflatable fabric, wherein said inflatable fabric is at least partially coated with an elastomeric composition; wherein said airbag cushion exhibits a characteristic leak-down time after inflation of at least 5 seconds; [and] wherein said inflatable fabric comprises at least two layers of fabric in certain discrete areas of the fabric and at least one single fabric layer at a discrete area within said fabric[.]; wherein said at least one narrow single fabric layer is the sole source of providing inflatable pillow structures within said airbag cushion[.]; wherein said at least one narrow single fabric layer is solely formed from a weave pattern of at most 12 yarns in width; and wherein the weave diagram for such an inflatable fabric does not exhibit more than three consecutive unfilled blocks in any row or column.

38.(Amended) [An] A one-piece woven airbag cushion comprising a coated inflatable fabric, wherein said inflatable fabric is at least partially coated with an elastomeric composition; wherein said airbag cushion exhibits a characteristic leak-down time after inflation of at least 5 seconds; [and] wherein said inflatable fabric comprises at least two layers of fabric in certain discrete areas of the fabric and at least one narrow single fabric layer at a discrete area within said fabric[,]; wherein said at least one narrow single fabric layer is the sole source of providing inflatable pillow structures within said airbag cushion[,]; wherein said at least one narrow single fabric layer is solely formed from a weave pattern of at most 12 yarns in width; and wherein only two separate weave densities are present within the area directly adjacent to said at least one narrow single fabric layer.

53.(Amended) [An] A one-piece woven airbag cushion comprising a coated inflatable fabric, wherein said inflatable fabric is at least partially coated with an elastomeric composition; wherein said airbag cushion exhibits a characteristic leak-down time after inflation of at least 5 seconds; [and] wherein said inflatable fabric comprises at least two layers of fabric in certain discrete areas of the fabric and [at least one] a plurality of narrow single fabric [layer] layers in at least two discrete areas within said fabric[,]; wherein said at least two narrow single fabric layers are the sole source of providing inflatable pillow structures within said airbag cushion[,]; [wherein at least one narrow single fabric layer is formed solely from a basket weave pattern of an even number of yarns, at most 12 yarns in width, wherein at least two discrete narrow areas of single fabric layers are present within said inflatable fabric, wherein said at least two areas of single fabric layers are separated by an area of at least two layers of fabric, and wherein the width

of each single layer is from 4 to 8 yarns in length] and wherein the narrow single fabric layers present within said two discrete areas within said fabric are formed solely from a basket weave pattern of an even number of yarns, from 4 to 8 yarns in width.

68.(Amended) A coated side curtain airbag exhibiting a rolled packing volume factor of from about 17 to about 24; wherein said coated side curtain airbag exhibits a leak-down time after inflation of at least 7 seconds; and wherein said inflatable fabric comprises at least two layers of fabric in certain discrete areas of the fabric and at least one narrow single fabric layer at a discrete area within said fabric[,]; wherein said at least one narrow single fabric layer is the sole source of providing inflatable pillow structures within said airbag cushion[,]; and wherein said at least one narrow single fabric layer is formed solely from a basket weave pattern of an even number of yarns, at most 12 yarns in width.